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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
HIROSHI IKEDA ET AL : EXAMINER: VANOY, T.
SERIAL NO: 09/463,961 :
FILED: MAY 25, 2000 : GROUP ART UNIT: 1754

FOR: METHOD AND APPARATUS
FOR PROCESSING EXHAUST
GAS OF SEMICONDUCTOR
FABRICATION

RESPONSE UNDER 37 CFR 1.116-
EXPEDITED PROCEDURE EXAMINING
GROUP 1754 "

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

In response to the Final Rejection dated November 21, 2001, the period for response having been extended to April 21, 2001, by a petition for extension of time filed herewith, Applicants respectfully request reexamination and reconsideration of the application in light of the remarks that follow.

Claims 1-5 and 7-10 are pending in this application. Claims 1 and 8 are independent.

Claims 1-5 and 7-10 are rejected under 35 U.S.C. §103(a) over Applicants' description of the prior art set forth on page 1, line 9 *et seq.* in their specification ("APA") and pages 2-3 in the Gas Purification text ("Kohl") the combination taken together in view of Japan Pat. Doc. No. 62-125,827A ("JP-827"). Applicants respectfully traverse the rejection because the cited prior art fails to teach or suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft".

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To establish a *prima facie* case of obviousness, the prior art references when combined must teach or suggest all the claim limitations. MPEP §2143.

Independent Claim 1 reads as follows:

1. (Amended) A process for treating exhaust gases, the process comprising
 - a step of providing an aeration stirring tank having a stirring device comprising a motor, a shaft rotatably connected to the motor, and *a blade attached to the shaft*;
 - a step of introducing exhaust gases into an aqueous alkaline liquid in said aeration stirring tank while stirring the aqueous alkaline liquid; and
 - a step of further removing harmful gases from the gases discharged from the aeration stirring tank.

Independent Claim 8 reads as follows:

8. (Amended) An apparatus for treating exhaust gases, the apparatus comprising
 - an aeration stirring tank for introducing exhaust gases into an aqueous alkaline liquid while stirring the aqueous alkaline liquid; and
 - at least one device selected from a gas-liquid contact device for allowing gases discharged from said aeration stirring device to come into contact with the aqueous liquid, and a packed column filled with an agent for passing gases discharged from said aeration stirring device; whereinsaid aeration stirring tank has a stirring device comprising a motor, a shaft rotatably connected to the motor, and *a blade attached to the shaft*.

The present invention provides a process and an apparatus for treating semiconductor production exhaust gases, characterized in that a higher removal rate of harmful components from exhaust gases is maintained, blocking due to a solid product can be prevented, and the running cost is low. Specification at page 3, lines 12-17. In the present invention, a device capable of obtaining a higher harmful component removal performance is obtained by accelerating the renewal of a gas-liquid interface by finely dividing foam in a liquid by a stirring blade. Specification at page 12, lines 22-25. An aeration stirring tank, which includes the stirring blade as part of a stirring means for stirring an alkaline liquid, disperses a gas in the alkaline liquid by rotating the stirring blade at a high speed in the liquid. Specification at page 9, lines 20-25.

In contrast of the claimed invention, APA and Kohl fail to teach and/or render obvious Applicants' step of passing exhaust through an aeration stirring tank. Final Rejection at page 4, lines 1-3. APA and Kohl fail to suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft".

The Final Rejection cites JP-827 to remedy the deficiencies of APA and Kohl. JP-827 discloses bringing BCl_3 into gas-liquid contact with a harm-removing liquid by means of a rotary type fine foam generator (i.e., rotary atomizer 8) immersed in a liquid of water or an alkali aqueous solution. See, e.g., English-language abstract of JP-827 and JP-827 at Fig. 1. The Final Rejection asserts that Fig. 1 of JP-827 discloses a blade assembly with stirring blades. Final Rejection at page 6, lines 3, 7 and 17.

However, Fig. 1 of JP-827 discloses a rotary atomizer 8 that is, instead of the recited "blade", an inverted cup-shaped rotating member. The bottom of the cup is fixed to the end of the rotating shaft. In Fig. 1 of JP-827, the gas to be treated is introduced into the cup by a gas introducing line, the end of which is placed within the cup. The gas is stored in the cup and then gradually released from the edge of the cup as a fine foam in the liquid in the tank.

JP-827 is a publication of a patent application before examination. After examination, JP-827 was published for opposition as JP 5-80243 ("JP-243"), copy attached. JP-827 was amended during examination by inserting a description of the rotary atomizer (see JP-243 at column 3, line 23 to column 4, line 1). The attached English-language translation of JP-243 column 3, line 23, to column 4, line 1, describes the rotary atomizer as a rotating cup-shaped rotor.

However, JP-243 fails to suggest that the rotary atomizer of JP-243 or of JP-827 includes the recited "blade" attached to a shaft. Thus, JP-827 fails to remedy the deficiencies of APA and Kohl.

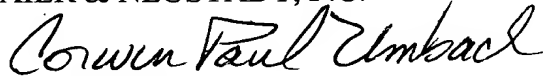
Because the cited prior art fails to suggest the limitation of independent Claims 1 and 8 of "a blade attached to the shaft", the cited prior art fails to have rendered obvious to the claimed invention. Therefore, the rejection under 35 U.S.C. §103(a) should be withdrawn. Applicants respectfully request reconsideration of withdrawal of the rejection.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Norman F. Oblon
Attorney of Record
Registration No. 24,618

Corwin P. Umbach, Ph.D.
Registration No. 40,211

Attachment:

JP 5-80243

English-language translation of JP 5-80243, column 3, line 23 to column 4, line 1



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(703) 413-3000

Fax #: (703)413-2220

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